REMARKS

Status of the Claims

Claims 1, 6, 27, 29, 30, 32, 35 and 45-56 are pending in this application. No claims have been added. Claims 26 and 33 have been canceled. Claims 1, 29, 30, and 32 are amended. Claim 1 has been amended to correct the Markush group and to define each polymer by its specific properties. Support for this amendment is found at page 11 of the specification and original claim 1. Claims 29, 30 and 32 have been amended to define the halogen, the heteroatom, heteroatom-containing and halogen-containing groups as fluorine and fluorine-containing group. M^1 has also been restricted to titanium. No new matter has been added by the above claim amendments.

Rejection under 35 USC 112, first paragraph

The Examiner rejects claim 1 as not supported by the specification in such a way as to convey that the inventors had possession of the invention of claim 1 at the time the application was filed. The Examiner states that not all olefin polymers recited in the Markush group of claim 1 will have the properties recited in claim 1. Applicants traverse the rejection and respectfully request the withdrawal thereof.

Applicants amend claim 1 to remove the Markush group and instead define the olefin polymer according to properties of the polymer. As such, the rejection regarding the Markush group should be withdrawn.

Rejection under 35 USC 112, second paragraph

The Examiner rejects claim 1 as indefinite because not all olefin polymers in the Markush group will have the properties recited in the claim. As stated above, Applicants traverse the rejection and amend claim 1 to delete the Markush group. As such, this rejection should be withdrawn.

Rejections under 35 USC 102(b) and alternatively 103(a)

The Examiner rejects claims 1 and 27 as anticipated by or obvious over WO 91/12285 to Turner et al (WO '285). Applicants traverse the rejection and respectfully request the withdrawal thereof.

Applicants submit that WO '285 discloses a process for producing block copolymers. The present invention of claims 1 and 27 is directed to non-block copolymers. As such, WO '285 does not disclose each and every element of the present invention and the rejection should be withdrawn.

The Examiner also rejects claims 1 and 6 as anticipated by or obvious over Moffat et al. USP 5,449,724 (Moffat '724). Applicants

traverse the rejection and respectfully request the withdrawal thereof.

Moffat '724 discloses free radical polymerization at a pressure of from 500 to 5000 bar. Applicants submit that radical polymerization of ethylene at such high temperatures results in production of polyethylene having a highly branched structure. See Table 3.1 at page 93 of "Industrial Organic Chemicals"; a copy is attached hereto.

Contrary to the above, the polymer of the present invention is obtained by coordination polymerization, which is completely different from radical polymerization.

The Examiner invites Applicants to produce comparative data, however, such comparative data is not obtainable as Applicants cannot reproduce the polymerization at such a high pressure.

As such, Applicants submit that Moffat '724 fails to disclose or suggest the polymer of the present invention having the claimed properties. Thus, the rejection should be withdrawn.

The Examiner rejects claim 27 as obvious over Moffat '724 in view of WO '285. Applicants traverse the rejection and respectfully request the withdrawal thereof.

As stated above, WO '285 and Moffat '724 fail to disclose or suggest all the elements of the polymer of the present invention of claim 1. As such, the combination of these references also falls

short of suggesting all the elements ~~of~~ the present invention. Thus, the rejection should be withdrawn.

The Examiner rejects claim 26 as obvious over Moffat '724 in view of DE 4030399 to Schweier et al. Applicants cancel claim 26; thus, the rejection is moot and should be withdrawn.

The Examiner rejects claims 1, 6, 27, 29-33 and 45-56 under 35 USC 102(b) or 35 USC 103(a) as anticipated by or obvious over EP 874005. Applicants traverse the rejection and respectfully request the withdrawal thereof.

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Applicants cancel claim 33; thus the rejection is moot as to this claim. Applicants also amend the claims to limit R^1 and R^{10} to represent a hydrocarbon group having one or more fluorine atoms or fluorine-containing groups to distinguish the transition metal compound of the present invention from that of EP '005.

Applicants also submit that the present invention has properties that are not present in the polymer of EP '005. For example, Applicants calculated the complex structure parameters of compounds 2 and 3. The results are summarized in the following table along with similar results from page 282 of the specification.

Compound No.	Ex. No.	Mw/Mn	$r(H^{\beta}-Z)$ (Å)	$ES\rho(H^{\beta}-Z)$ (KJ/mol)
(1)	Ex. 6-9	1.1	2.275	-37.1
(2)	Ex. 10-12	1.1	2.362	-29.9
(3)	Ex. 13-15	1.1	2.346	-31.2
(4)	Ex. 16	1.2	2.329	-41.1
(5)	Ex. 17	1.4	2.324	-42.9
(8)	Ex. 22	1.1	2.498	-33.1
(9)	Comp. 3	2.0	4.246	-12.0
(10)	Comp. 4	1.8	4.812	-10.1

Please note the correlation between $r(H^{\beta}\text{-}Z)$ and Mw/Mn and the correlation between $ESp(H^{\beta}\text{-}Z)$ and Mw/M. The correlations are plotted on the graphs attached hereto as Exhibit A. As evidenced by the plotted data, it is clear that the claimed complex structure parameters of the transition metal compound are critical to obtaining a polymer having a narrow molecular weight distribution (Mw/Mn). As such, EP '005 cannot anticipate or make obvious the present invention because of the fundamental differences in the transition metal compound. Thus, the rejection should be withdrawn.

The Examiner rejects claims 1, 6, 27, 29-33 and 45-56 under 35 USC 102(b) or 35 USC 103(a) as anticipated by or obvious over EP 1008595. Applicants traverse the rejection and respectfully request the withdrawal thereof.

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Applicants submit that EP '595 fails to disclose or suggest the specific catalyst system of the transition metal compound used in the present invention. The specific catalyst is essential to yielding the polymer of the present invention. Without the same transition metal compound the obtained polymer will not have the claimed properties as demonstrated above. As such, the rejection should be withdrawn.

The Examiner rejects claims 1, 6, 27, 29-33 and 45-56 under 35 USC 102(b) or 35 USC 103(a) as anticipated by or obvious over JP

2000-119316. Applicants traverse the rejection and respectfully request the withdrawal thereof.

As explained above, the polymer of the present invention is not obtainable unless the specific transition metal compound is used in the catalyst system. JP '316 fails to disclose this specific catalyst system with the specific transition metal compound. As such, JP '316 fails to disclose the polymer of the present invention and the rejection should be withdrawn.

Conclusion

As Applicants have addressed and overcome all rejections in the Office Action, Applicants respectfully request that the rejections be withdrawn and that the claims be allowed.

Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), Applicant(s) respectfully petition(s) for a one (1) month extension of time for filing a reply in connection with the present application, and the required fee of $110.00 is attached hereto.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Kecia Reynolds (Reg. No. 47,021) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By _____
Marc S. Weiner, #32,181

P.O. Box 747
Falls Church, VA 22040-0747

(703) 205-8000

MSW/KJR/crt
1155-0226P

Attachment(s): *Industrial Organic Chemicals*; and
Exhibit A